

WHAT IS CLAIMED IS:

1. An elongated structural fabric comprising:
a first layer of substantially parallel fiber reinforced plastic warp tapes
substantially aligned with the longitudinal axis of said fabric;
a second layer of substantially parallel fiber reinforced plastic weft tapes
lying transverse to said axis; and
yarn looped around said warp tapes and said weft tapes so as to maintain said
tapes in said aforesaid alignment.
2. An elongated structural fabric according to claim 1 wherein said warp and
weft tapes are positioned such that at least one of said first layer and said second
layer is substantially free of interstices.
3. An elongated structural fabric according to claim 2 wherein each of said
first and second layers is substantially free of interstices.
4. An elongated structural fabric according to claim 3 wherein said edges of
said warp tapes in said first layer and edges of said weft tapes in said second layer
are in substantial abutment.
5. An elongated structural fabric according to claim 3 wherein edges of said
warp tapes are in substantial abutment, and said weft tapes cross over themselves in a
cross weft pattern.

6. An elongated structural fabric according to claim 1 wherein said warp and weft tapes are composed of fibers reinforced with a polymer.

7. An elongated structural fabric according to claim 6 wherein said fibers are glass fibers.

8. An elongated structural fabric according to claim 7 wherein said warp and weft tapes are positioned such that at least one of said first layer and said second layer is substantially free of interstices.

9. An elongated structural fabric according to claim 8 wherein each of said first and second layers is substantially free of interstices.

10. An elongated structural fabric according to claim 9 wherein edges of said warp tapes in said first layer and edges of said weft tapes in said second layer are in substantial abutment.

11. An elongated structural fabric according to claim 9 wherein edges of said warp tapes are in substantial abutment, and said weft tapes cross over themselves in a cross weft pattern.

12. An elongated structural fabric according to claim 1 wherein said weft tapes are substantially perpendicular to said axis.

13. An elongated structural fabric according to claim 12 wherein said warp and weft tapes are positioned such that at least one of said first layer and said second layer is substantially free of interstices.

14. An elongated structural fabric according to claim 13 wherein each of said first and second layers is substantially free of interstices.

15. An elongated structural fabric according to claim 14 wherein edges of said warp tapes in said first layer and edges of said weft tapes in said second layer are in substantial abutment.

16. An elongated structural fabric according to claim 14 wherein edges of said warp tapes are in substantial abutment, and said weft tapes cross over themselves in a cross weft pattern.

17. An elongated structural fabric according to claim 12 wherein said warp and weft tapes are composed of fibers reinforced with a polymer.

18. An elongated structural fabric according to claim 17 wherein said fibers are glass fibers.

19. An elongated structural fabric according to claim 18 wherein said warp and weft tapes are positioned such that at least one of said first layer and said second layer is substantially free of interstices.

20. An elongated structural fabric according to claim 19 wherein each of said first and second layers is substantially free of interstices.

21. An elongated structural fabric according to claim 20 wherein edges of said warp tapes in said first layer and edges of said weft tapes in said second layer are in substantial abutment.

22. An elongated structural fabric according to claim 20 wherein edges of said warp tapes are in substantial abutment, and said weft tapes cross over themselves in a cross weft pattern.

23. A method of forming an elongated structural fabric comprising the steps of:

positioning a plurality of warp tapes in a first layer with said warp tapes substantially aligned with the longitudinal axis of said fabric;

5 locating a plurality of weft tapes in a second layer with said weft tapes lying transverse to said axis; and

looping yarn around said warp and weft tapes to maintain said warp tapes in substantial alignment with said axis and said weft tapes transverse to said axis.

24. A method according to claim 23 wherein said positioning step comprises the steps of pulling said warp tapes from a creel and feeding said warp tapes into a stitching head; and said locating step comprises the steps of pulling said weft tapes from a creel, over a tension compensator, and into an indexing carriage which feeds
5 said weft tapes onto hooks which move said tapes into the stitching head.

25. A method according to claim 23 wherein said warp and weft tapes are positioned and located such that at least one of said first layer and said second layer is substantially free of interstices.

26. A method according to claim 25 wherein each of said first and second layers is substantially free of interstices.

27. A method according to claim 26 wherein edges of said warp tapes in said first layer and edges of said weft tapes in said second layer are in substantial abutment.

28. A method according to claim 26 wherein edges of said warp tapes are in substantial abutment, and said weft tapes cross over themselves in a cross weft pattern.

29. A method according to claim 23 wherein said warp and weft tapes are composed of fibers reinforced with a polymer.

30. A method according to claim 23 wherein said weft tapes are substantially perpendicular to said axis.

31. A method according to claim 30 wherein said warp and weft tapes are positioned such that at least one of said first layer and said second layer is substantially free of interstices.

32. A method according to claim 31 wherein each of said first and second layers is substantially free of interstices.

33. A method according to claim 32 wherein edges of said warp tapes are in substantial abutment, and said weft tapes cross over themselves in a cross weft pattern.

34. A method according to claim 32 wherein said warp and weft tapes are composed of fibers reinforced with a polymer.